TASK 2 DATA EVALUATION RECORD

STUDY TYPE: Product Performance

MRID 486809-03. Jones, C.E. 2011. Bioactivity of Termidor Dry Pressurized (TC-311, 0.005% Fipronil), Termidor Dry (TC-328, BAS 350 HJ I, 0.5% Fipronil) and Termidor Foam (TC-335, 0.005% Fipronil) Against Eastern Subterranean Termites (*Reticulitermes flavipes*) Via Indirect Contact Assays (DIMeS 1887a).

OCSPP 810.3500 [Premises Treatments]
OCSPP 810.3600 [Structural Treatments]

Product Name: TC-335

EPA Reg. No.: 499-LAG

Decision number: 459858

DP number: 400663

Prepared for
Registration Division (7505)
Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, DC 20460

Prepared by
Summitec Corporation
Task Order No.: 2-62

Primary Reviewer:
Dennis M. Opresko, Ph.D.

Signature: [signature]
Date: JUL 10 2012

Secondary Reviewers:
Gene Burgess, Ph.D.

Signature: Gene Burgess, AE
Date: JUL 10 2012

Robert H. Ross, M.S. Program Manager

Signature: Robert H. Ross
Date: JUL 10 2012

Quality Assurance:
Jennifer Goldberg, B.S.

Signature: Jennifer Goldberg
Date: JUL 10 2012

Disclaimer

This review may have been altered subsequent to the contractors' signatures above.
Summitec Corp. for the U.S. Environmental Protection Agency under Contract No. EP-W-11-014

DATA EVALUATION RECORD

[EPA Primary Reviewer's Name]

STUDY TYPE:	PRODUCT PERFORMANCE [OCSPP 810.3500; 810.3600]
MRID:	486809-03. Bioactivity of Termidor Dry Pressurized (TC-311, 0.005% Fipronil), Termidor Dry (TC-328, BAS 350 HJ I, 0.5% Fipronil) and Termidor Foam (TC-335, 0.005% Fipronil) Against Eastern Subterranean Termites (*Reticulitermes flavipes*) Via Indirect Contact Assays (DIMeS 1887a). Jones, C.E. 2011.
DP BARCODE:	400663
DECISION NO:	459858
SUBMISSION NO:	910069
SPONSOR:	BASF Corporation.
TESTING FACILITY:	APR/IB Advanced Testing II, Non-crop.
STUDY DIRECTOR:	S. Thompson, Ph.D., APR/IB Advanced Testing II, Non-crop.
SUBMITTER:	D.M. Thomas, BASF Corporation
STUDY COMPLETED:	06/10/2011
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE:	"This study was not conducted in compliance with Good Laboratory Practice standards as described by EPA (40 CFR Parts 160 and 792), and was never intended for that purpose."
TEST MATERIAL:	PRODUCT NAME: TC-335 EPA REGISTRATION NUMBER: 499-LAG ACTIVE INGREDIENT NAME: Fipronil CHEMICAL NAME: [5-amino-1-(2,6-dichloro-4-(trifluoromethyl)phenyl)-4-((1,R,S)-(trifluoromethyl)sulfinyl)-1-H-pyrazole-3-carbonitrile] A.I. %: 0.005% PC CODE: 129121

CAS NO.: 120068-37-3
FORMULATION TYPE: Pressurized foam
PRODUCT APPLICATION RATE(S): Not quantified.
ACTIVE INGREDIENT APPLICATION RATE(S)g/m^2: Not reported

PROPOSED LABEL MARKETING CLAIMS: "Kills termites (including subterranean, drywood, dampwood, and arboreal)…"

STUDY REVIEW

Purpose: To evaluate the efficacy of Termidor® Dry Pressurized (TC-311, 0.005% Fipronil), Termidor® Dry (TC-328, BAS 350 HJ I, 0.5% Fipronil) and Termidor® Foam (TC-335, 0.005% Fipronil) against eastern subterranean termites (*Reticulitermes flavipes*) via indirect contact assays.

MATERIALS AND METHODS

Test Location: Not reported.

Test Material(s): Termidor® foam (TC-335; 0.005% fipronil); Termidor® Dry (TC-328, 0.5% fipronil); Termidor® Dry Pressurized insecticide (TC-311, 0.005%). Termidor® foam (TC-335) is identical to the substance listed under EPA Reg. No. 499-LAG.

Test Species Name, Life Stage, Sex and Age: Eastern subterranean termites (*Reticulitermes flavipes*), workers (beyond third instar).

Describe test containers, chambers and/or apparatus (include site description and location) and how experiment was conducted: A single hole (0.75 cm in diameter) was drilled into the sides of two Petri dishes (100 x 20 mm). Sections of clear Tygon® tubing were inserted into the holes connecting the two dishes linearly and secured in place with silicone adhesive. The entrance to the tubing on the dish to be treated was sealed with tape. Both Petri dishes were supplied with filter paper discs as a substrate for the termites. Termidor® Foam was applied through a single hole in the center of the Petri dish lid. The lid was secured in place with tape. Sufficient material was applied for approximately 2 seconds so that the entire inside surface of the Petri dish and lid was covered. A small piece of tape was used to cover the hole in the lid after treatment. The dishes were weighed before and after treatment. After treatment, the lids were replaced and the covered Petri dishes were kept in a fume hood at ambient laboratory temperatures for 24 hr. After 24 hr, the lids were removed and the treatments were allowed to dry for at least an additional 24 hr. After drying, the tape was removed from the hole in the treated dishes, and the filter paper was moistened. Forty worker termites (beyond third instar) were placed in the center of each untreated dish. Dishes were maintained at 26°C and ca. 80% RH in a darkened incubator, except during evaluation. Moisture was replenished as needed. Location of the termites was assessed at 2 and 4 hr as well as 1, 2, 3, and 5 days. Mortality and intoxication were assessed at 1, 2, 3, 5, 7 and 10 days.

List the treatments including untreated control: Average amount of Termidor® Foam dispensed per dish across the 5 replicates was 6.24 g. Controls were untreated.

Number of replicates per treatment: 5.

Number of individuals per replicate: 40.

Length of exposure to treatment: Variable.

Were tested specimens transferred to clean containers? No.

Experimental conditions: 26°C and 80% RH in a darkened incubator.

Data or endpoints collected/recorded: Location of termites and number of dead and intoxicated.

Data analysis: Mean percent mortality and mean percent intoxicated. No other data analysis.

RESULTS

Replicate data are included in the study report. There was no mention of protocol amendments or deviations. Data were not corrected using Abbott's Formula. Summary results for Termidor® Foam (TC-335; label formulation) are shown in Table 1, together with other materials tested and controls.

Table 1. Bioactivity of Termidor Dry and Foam Formulations on Subterranean Termites (*R. flavipes*).

Treatment	% fipronil	Mean % mortality/intoxication days after exposure											
		1		2		3		5		7		10	
		d-m	intox	d-m	intox	d-m	intox	d-m	intox	d-m	intox	d-m	intox
Termidor Dry pressurized TC-311	0.005	69.0	0.0	80.0	0.0	88.0	0.0	93.5	0.0	96.0	0.0	100.0	0.0
Termidor Dry TC 328	0.5	77.0	0.0	82.0	0.0	90.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
Termidor Foam TC 335	0.005	77.0	0.0	87.5	0.0	94.0	0.0	94.5	0.0	95.5	0.0	100.0	0.0
UTC	-	5.5	0.0	7.5	0.0	7.5	0.0	7.5	0.0	7.5	0.0	7.5	0.0

Bioassays initiated 26 September 2011

Water not easily absorbed by filter paper

[1] Means based on 5 replicates per treatment

[2] Formula code 237- 036; Lab code 237-051; BAS 350 HKI; 0.005% fipronil composition

[3] Formula and Lab code 237-056; BAS 350 HJI; 0.5% fipronil composition

[4] Formula and Lab code 237-048; BAS 350 HLI, 0.005% fipronil composition

STUDY AUTHOR'S CONCLUSIONS

Mean percent mortality of termites exposed indirectly to Termidor® Foam (TC-335) was 94% by Day 3.

REVIEWER'S CONCLUSIONS

Control mortality was 7.5% at Day 2 and mean percent mortality of termites indirectly exposed to Termidor® Foam was 94% by Day 3. Using Abbott's Formula, mean percent mortality of the treated group corrected for control mortality is:

$$\frac{94\% \text{ (treated)} - 7.5\% \text{ (control mortality)}}{[100 - 7.5\% \text{ (control mortality)}]} \times 100 = 93.5\%$$

Data support the conclusions of the study author.

REVIEWER'S RECOMMENDATIONS

Acceptable. Data support the label claim that the product kills subterranean termites.